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BUREAU
OF
PLANT INDUSTRY

PLANT IMMIGRANTS.

Descriptive notes furnished mainly by Agricultural Explorers and Foreign Correspondents relative to the more important introduced plants which have arrived during the month at the Office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry of the Department of Agriculture. These descriptions are revised and published later in the Inventory of Plants Imported.

No. 109. May 1915.

Genera Represented in this Number.

Ampelopsis	40738-739	Lonicera	40689-691
Asparagus	40617		40695
Avena	40650	Malus	40619
Berberis	40681-688		40729
Citrus	40674-676	Pistacia	40662
Cotoneaster	40730	Prunus	40623
	40734-737	Psoralea	40744
Cudrania	40618	Pyrus	40724-728
Daphne	40613	Rhus	40716-717
Euonymus	40696-698	Rosa	40699-702
Gentiana	40670		40768
Hippophae	40715	Solanum	40759-760
Hordeum	40652	Syringa	40709
Juniperus	40677-680	Viburnum	40692-694

Plates:

Cluster of fruit of Itamaraca mango, Rio de Janeiro.
The Sepulchre of Con-fu-tse (Confucius).

Applications for material listed in these multigraphed sheets may be made at any time to this Office. As they are received they are placed on file, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it, as well as to others selected because of their special fitness to experiment with the particular plants imported. Do not wait for the Autumn Catalogue.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.

Permission to publish on application only.

Ampelopsis sp.(Vitaceae.)40738-739. Seeds from Shensi, China. 40738. "From near Mei hsien. A trailing vine, closely resembling *Ampelopsis dissecta*, but with larger leaves and broader winged leaflets. Color of berries dull yellow. Found between stony debris. Of value as a porch and trellis vine, especially for the drier sections of the United States." 40739. "From near Nan chi chen. A trailing vine, making long annual shoots, which sprout up from a short woody base or crown; leaves dissected, berries dark violet-black. Found amongst stony debris. Of use as a cover plant hiding stony and unsightly places, also for planting along terraces." (Meyer's introductions and descriptions.)

Asparagus lucidus Lindl.(Convallariaceae.) 40617. Plants of an asparagus from the Bureau of Productive Industry, Taihoku, Formosa. "From Mt. Daiton, near Taihoku. Japanese name *Ten mondo* or *Kusasugi-kadsura*. A perennial herb growing wild on seacoasts and also cultivated in fields. There are standing and climbing varieties. In summer it produces small yellowish flowers, which are succeeded by little red berries. The tuberous roots grow in tufts about the size of a finger and are preserved in sugar, or used for various cooking purposes after having been boiled in water to take away the acidity." (Useful Plants of Japan.)

Avena nuda Hoejer.(Poaceae.)40650. "Huskless oats from Pao dji, Kansu, China. Cultivated in the higher regions of Kansu and Thibet as a human food. The grains are slightly parched, ground into flour, and this is mixed with weak tea, and eaten as a porridge. Flour from non-parched oats is also much used in the making of noodles and for certain coarse cakes. These oats are apparently able to stand more drought and heat than hullless barley which is also much grown in the higher mountain regions of northwestern China. They are however, apparently not as productive as the hullless barley and the flour has not quite the rich flavor that the barley flour has. Of interest to breeders and of value for the inter-mountain sections of the United States." (Meyer's introduction and description.)

Berberis spp.(Berberidaceae.)40681-688. Eight barberries from Kansu, China, some very low growing, others up to 20 feet high, with varying shades of red berries produced in great profusion. All recommended for trial as ornamentals. (Meyer's introductions.)

Citrus spp.(Rutaceae.)40674-676. Three varieties of citron from the Lamao Experiment Station, Lamao, Bataan, presented by Mr. P. J. Wester, Horticulturist. Two varieties remarkable for precocity, one of them, perhaps the smallest citrus in the genus, practically ever bearing, the other highly aromatic and differing strikingly from the citron in its growth.

Cotoneaster spp.(Malaceae.)40730, 40734-737. Seeds of five species of cotoneaster from Kansu, China. 40730, "a tall vigorous species, with rather large leaves and large, dark-violet berries, found on rocky cliffs and ledges, collected at an elevation of 6000 feet." 40734, "a very small bush, crawling between stones and grass, at elevations between 6000 and 11000 feet, of value as a rockery plant." 40735 and 40737, "medium sized shrubs, one with small foliage and black berries, the other resembling *C. pyracantha*, with bright red berries." 40736, "small, with small, orange-colored berries and very small foliage, found on stony mountain sides." (Meyer's introductions and descriptions.)

Cudrania javanensis Trecul.(Urticaceae.)40618. Cuttings from the Bureau of Productive Industry, Formosa, from Mt. Daiton, near Taihoku. "*Kwakwatsu-gayu*, an evergreen shrub of the family Urticaceae, of a vine-like nature, provided with thorns on the stems, and found in the provinces of Satsuma and Osumi. The barren and fertile flowers shoot separately on distinct plants. It bears flowers in summer and reddish yellow sweetish fruits in winter. They are eaten fresh or preserved in sugar. The wood is used for dyeing yellow." (Useful Plants of Japan, no. 213b.)

Daphne blagayana Freyer.(Thymelaeaceae.)40613. Plants from Chester, England. Purchased from Dicksons. "A dwarf, evergreen shrub of spreading habit. Leaves smooth, 1 to $1\frac{3}{4}$ inches long, aggregated in a tuft at the end of the twig. Flowers creamy white, very fragrant, produced in March and April, crowded in a head of 20 to 30 blossoms at the end of the twig and about two inches across, consisting of several umbels, subtended by thin greenish, silky bracts. Fruit pinkish white, rarely seen in cultivation. Native of the mountains of eastern Europe, discovered by Count Blagay in 1837, introduced about 1875. This beautiful and sweet-scented Daphne has perhaps nowhere been so successfully cultivated as in the Glasnevin Botanic Gardens. It is there planted on low mounds composed of stones and loam from a granite district. The secret of

success appears to be in the continuous layering of the shoots. As soon as the young growths are an inch or so long, the previous summer's branches are weighed down to the ground by placing stones on them. A little soil may come between. By this system the whole plant is always renewing its root system at the younger parts. At Glasnevin I have seen a patch 8 feet across, in the rudest health. This system is, no doubt, helped by the moist, equable climate of Dublin. As this shrub is found on calcareous rock, stones of the same character would appear to be preferable for layering, but Sir F. Moore tells me he does not consider this Daphne needs lime. He recommends good loam or peat and leaf-soil and partial shade."(Abridged from W. J. Bean, Trees and Plants Hardy in the British Isles, vol.1,p.467.)

Euonymus spp.(Celastraceae.)40696-698. Seeds of spindle woods from Kansu, China. Three species, one forming heavy trunks when allowed to grow unmolested, another low-growing, and the third of very small, creeping growth, found on shady places amongst scrub and moss, at altitudes of between 7000 and 8000 feet." (Meyer's introductions and descriptions.)

Gentiana lutea L.(Gentianaceae.)40670. Plants of the yellow gentian from Floraire, near Geneva, Switzerland. Presented by Mr. H. Correvon. "A tall, stout, hollow-stemmed perennial herb of open or partly open grassy places on the mountains of southern and central Europe. Its large flowers are bright-yellow and spotted, and occur in axillary clusters. The underground portion is frequently a yard in length, and may have several long branches. It is commonly collected in flower. To prevent its extermination the Austrian government imposed a heavy fine for collecting a root not at least 2 cm. (nearly an inch) in diameter at the top, this ordinarily requiring a three years' growth and insuring its previous propagation by seed. The United States supply comes chiefly from Europe."(The National Standard Dispensatory.)

Hippophae salicifolia D.Don.(Elaeagnaceae.)40715. Seeds of a sea-buckthorn from near Pao dji, Kansu, China. "A species of sea-buckthorn, reaching a height of 40 feet, with a trunk 2 feet in diameter; leaves larger than in *H. rhamnoides*; berries of pale waxy color, very sour. Occurring in mountain ravines and on pebbly creek bottoms, sometimes to the exclusion of almost everything else. Of value as an ornamental park tree, suited especially for

the cooler and drier sections of the United States. Collected at an elevation of 7000 feet above the sea. Chinese name *Tsuan tzu*, meaning 'sour thorn.'"(Meyer's introduction and description.)

Hordeum vulgare L.(Poaceae.) 40652. Barley from Kincheng, Kansu, China. "Hullless barley, cultivated up to 11000 feet above sea on mountain terraces in western Kansu and Thibet. Much used as a human food and in some sections the mainstay of the people. The grains are parched, ground into flour, and this flower is eaten mixed with hot tea, butter or grease, when obtainable, and often a bit of salt added. Most times it is consumed in the form of a stiff dough, manipulated and eaten with the fingers and called *tzamba*. Another way is to pour hot water or milk on it and eat it as a gruel or porridge. The flour from non-parched grains is used in the form of noodles, often much mixed with flour from broad beans from which it receives a coarse flavor. Of value for the more elevated regions of the United States." (Meyer's introduction and description.)

Juniperus spp.(Pinaceae.) 40677-680. Seeds of junipers from Kansu and Shensi, China. 40677,"A peculiar species of juniper, of weeping habit, forming long cord-like branches, which hang down perpendicularly from the crown. Able to stand much drought and heat, but apparently quite sensitive to severe frosts. Of value as a quaint ornamental tree for cemeteries, especially for the drier sections of the United States. Chinese name *Tzu pei shu*, meaning 'pointed conifer.'" 40680,"A beautiful pyramidal variety of juniper of bluish color, found in an old temple-court." (Meyer's introductions and descriptions.)

Lonicera spp.(Caprifoliaceae.) 40689-691, 40695. Seeds of honeysuckles from Kansu, China. Four shrubby species, all of possible value as ornamentals for the cooler portions of this country. (Meyer's introductions.)

Malus formosana Kaw. & Koidz.(Malaceae.) 40619. Seeds of a recently described native Formosan apple, received from the Bureau of Productive Industry, Taihoku, Formosa.

Malus spp.(Malaceae.) 40729. "Seeds of crab apples of various sizes, purchased on the streets of Sianfu, Shensi, China." (Meyer's introduction.)

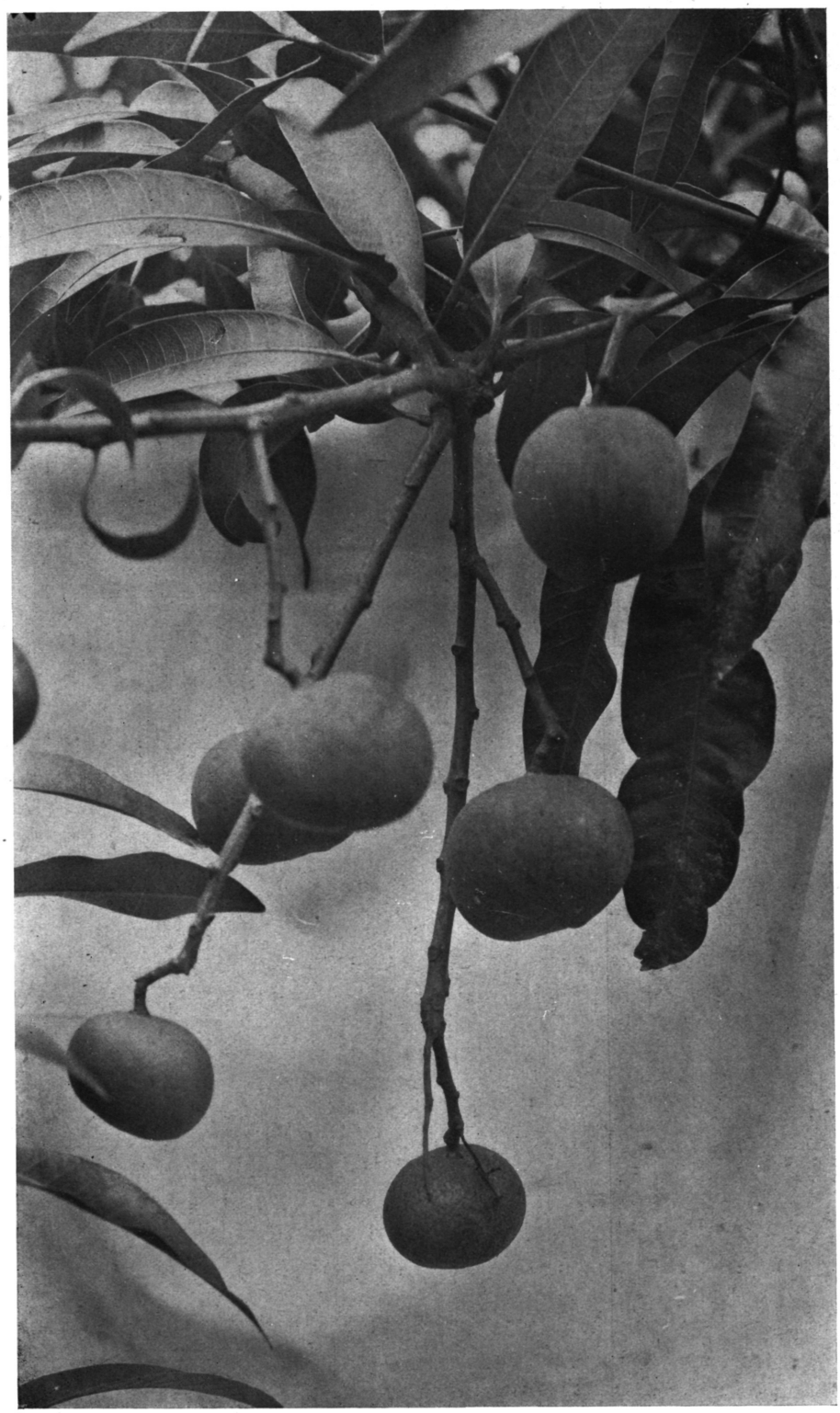
Pistacia chinensis Bunge.(Anacardiaceae.)40662. Seeds of the Chinese pistache from near Kwan yin tang, Shensi,

China. "A beautiful and characteristic Chinese pistache tree, having graceful, pinnate foliage, which, when just coming out is of wine-red color, then becomes glossy green, while toward fall it turns into flaming scarlet, purple and yellow hues. The tree is dioecious and the males become larger and taller than the females. It lives to be several centuries old and can reach truly enormous sizes when very old and when located in a good situation. A tree near the village of Tsai chia pu, Shensi province, has a girth of 16 feet, five feet above ground. Of value as a graceful park and avenue tree, especially for the milder semi-arid sections of the United States."(Meyer's introduction and description.) Persons subject to poison-ivy poisoning should exercise care in handling this tree as one or two cases of severe poisoning similar to that of ivy have been reported.

Prunus sargentii Rehder.(Amygdalaceae.) 40623. Plants of the Sargent cherry from the Arnold Arboretum, Jamaica Plain, Mass. "The first of the Japanese cherries to flower is *Prunus sargentii*. This is a tall tree in the native forests of the northern island of Japan where it is valued as a timber tree. There are six specimens of different sizes on the Forest Hill Road, Arnold Arboretum, and they are now covered with clusters of large pink or rose-colored single flowers, for the color of the flowers of this tree varies considerably on different individuals. The small black fruits which ripen in June are almost hidden by the large dark-green leaves, which in the autumn turn to shades of orange and red; the smooth shining, reddish bark adds to the beauty of this tree. Travelers who have seen cherry blossoms in many lands declare that *Prunus sargentii* should become a common tree if nurserymen will recognize its value and make a business of making it known to the public."(Arnold Arboretum Bulletin of Popular Information, no. 20.)

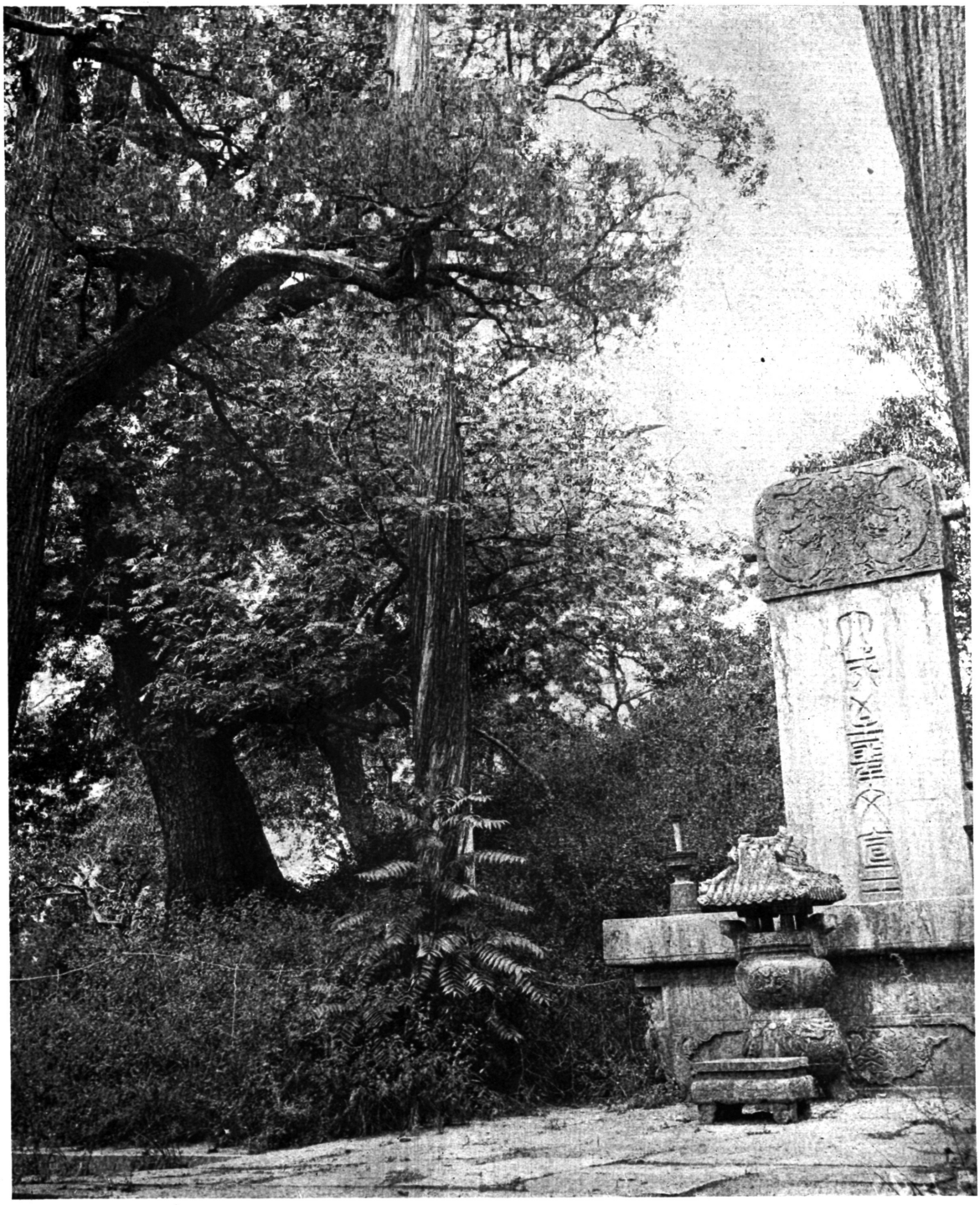
Psoralea corylifolia L.(Fabaceae.) 40744. Seeds from near Kwei hsien, Shensi, China. "An annual herb, growing from 5 to 8 feet tall, cultivated here and there in patches, on rich bottom lands. Said to be utilized for medicinal purposes, only, the seeds being ground up and forming the main ingredient in Chinese kidney plasters. Of value possibly as a fodder plant for the warmer sections of the United States. Chinese name *Po ku chih*, meaning 'great illness medicine.'"(Meyer's introduction and description.)

Pyrus spp.(Malaceae.) 40724-728. Seeds of pears from Kansu, China. Five species or varieties of pears, some



A BRAZILIAN MANGO.

Nearby view of a cluster of the fruit of the Itamaraca mango, a variety remarkable for its precocity, delightful aroma, the small size of its fruit, and their beautiful red blush. Photo No. 15181, taken Nov. 3, 1913 by Dorsett, Shamel and Popenoe at Hotel Internacional, Rio de Janeiro, Brazil.



THE SEPULCHRE OF CON-FU-TZE, (CONFUCIUS) SURROUNDED BY OLD TREES.

"The large black trunk to the left is an old male specimen of *Pistacia chinensis*, which is several centuries old. The stems in front are of *Juniperus chinensis*. Both of these have been introduced and are now growing in America. This whole ensemble exhales a spirit of the gray, hoary past, from which influence one cannot escape." Photo No. 5348 by F. N. Meyer, taken August 7, 1907, at Chu fi, Shantung, China.

wild, some cultivated on a small scale, the fruits varying in size and color, all of value possibly for breeding purposes. (Meyer's introductions.)

Rhus sp. (Anacardiaceae.) 40716. Seeds of a sumach from near Yü yin chen, Kansu, China. "A sumach, found on stony mountain slopes, in ravines and on wild places; growing into a tall shrub or small tree. Leaves large, light green, pubescent, winged. Fruits borne in large spikes; berries coated with a sticky whitish wax which burns readily. The Chinese do not seem to utilize this wax in any way. Of value as an ornamental park shrub for the mild wintered sections of the United States." (Meyer's introduction and description.)

Rhus javanica L. (Anacardiaceae.) 40717. Seeds of a sumach from near Kwan yin tang, Shensi, China. "A sumach with medium sized, glossy green leaves and reddish petioles, growing into a tall shrub or even into a tree up to 60 feet high. Assumes most brilliant colors in fall. Produces many spikes of reddish-bronze colored berries which persist on the trees for a long time. On this sumach a gall insect makes its home, producing large inflated galls, which the Chinese utilize much for dyeing black. The foreigners however, found out that they contain a great percentage of tannin and used them for tanning purposes, vast quantities being exported from Hankow especially, under the name of 'Chinese gall-nuts.' This sumach possibly might be cultivated on cheap lands in the Southern States for its gall production. It is not very particular as to soil requirements, but it loves good drainage. Care should be taken however, to keep it well under control as it has decidedly weedy tendencies. Chinese name *Wu bei tzu shu*, meaning 'Five folded seed tree.'" (Meyer's introduction and description.)

Rosa spp. (Rosaceae.) 40699-702, 40768. Seeds of roses from Kansu, China. 40699, *Rosa sweginzowii* Koehne, "from near San sze miau. A wild rose, resembling *R. hugonis*, of very vigorous growth and having remarkably broad spines, which vary much in size and in quantity on various specimens. Found on rocky mountain slopes at elevations between 5000 and 8000 feet. Of value possibly as a factor in hybridization experiments." 40700, "from near Chiao tchwan chen. A very vigorously growing rose of climbing habit, overrunning clumps of shrubbery. Bears very large clusters of orange-red berries; foliage large, slightly pubescent. Of value as a vigorous stock. Collected at an

elevation of 4000 feet." 40701, "from near Tjin ya tan. A bushy rose, of erect growth, averaging a height of 5 to 7 feet. Twigs of reddish color, almost spineless. Collected at an elevation of 7000 feet." 40702,"from near Yau pu ko. A shrubby rose, quite spiny, found on dry stony mountain-slopes. Flowers apparently yellow." 40768,"from near Cheng hsien. A wild rose, of very vigorous growth, found as big clumps amidst scrub or as solitary specimens on stony places. Makes long annual shoots, which lean over in a characteristic way. Collected at an elevation of 3000 feet." (Meyer's introductions and descriptions.)

Solanum melongena L.(Solanaceae.) 40759-760. Seeds of eggplants from Yang ping, Shensi, and Pai hsiang chen, Shansi, China. One variety having "very large purplish white fruits, apparently a good market variety, grown under irrigation on the rich flats along the Wei River," the other "with medium sized fruits of pure white color." (Meyer's introductions and descriptions.)

Syringa sp.(Oleaceae.) 40709. Seeds of a lilac from near Pa li tang, Kansu, China. "A small lilac, growing from 3 to 5 feet in height, having small leaves and apparently very floriferous. Found covering whole loess hill slopes in company with *Amygdalus davidiana* at an elevation of 3500 feet. Of value as a hardy flowering shrub for the dry and cool sections of the United States." (Meyer's introduction and description.)

Viburnum spp.(Caprifoliaceae.) 40692-694. Seeds of two species of Viburnum from Kansu, China, all decidedly ornamental, and bearing large racemes of dark red berries. (Meyer's introductions.)

NOTES FROM CORRESPONDENTS ABROAD.

China, Chehkiang province, Hangchow. Mr. Frank N. Meyer writes, July 1: "A week again has passed since I first landed here and I want to let you know what things I have seen. Firstly this: we are in the rainy season and every day it pours and pours until one would think there was nothing left and just as things begin to lose their glistening coat of wetness then it starts again. We have been out collecting several times and got drenched and now our clothes have started to mould badly, our straw hats are black and with peculiar spots and on the ribbons colonies of fungi establish themselves overnight.

"Well, I have a few interesting discoveries to report, firstly there are many specimens of *Castanea mollissima* scattered at the bases and on the lower slopes of the hills around here, and -- these chestnuts are seriously attacked by the bark-fungus, and in my estimation are going to succumb to it these coming years. The chinquapins, however, which are very abundant on the higher and more sterile hill slopes, seem to be immune, at least, I did not see any evidences of damage or even of attacks. This brings another interesting point to my mind. I was told in Nanking that various missionaries at Kuling, the great summer resort in central China for missionaries, were cutting down their chestnuts, as the tops were all dying, due to borers working underneath the bark. (Of course this last cause is the most easily explainable to laymen). But now this is the point: when chestnuts here in eastern central China are only recently being attacked seriously then the disease might have come from some other locality, like from north China possibly, or this *Diaporthe parasitica* might have become, through mutation or whatever else, much more aggressive of late, than in periods gone by. What do specialists say on this question?

"The second of my more important observations are that -- hickories occur wild in the mountains near here. I bought some samples of nuts in town and was assured that the trees producing them grow wild in the Fung huang shan region to the west and southwest from here. I found a large tree of a Pecan-like appearance in a densely wooded valley on the slopes of the Pan shan, a few hours from here to the northeast and within some days I may have found the real hickory-nut-tree, which has not been reported from China up till now. Wilson in his second volume of 'A Naturalist in China', makes special mention of this fact. Chinese here call them hickory-nuts *sa ho to* and *sa kuo* meaning 'sand walnut' and 'sand nut'; why, we have not been able to ascertain as yet. I am sending you, by separate parcel, a small quantity of these hickory nuts. If you see fit, would you kindly ask Professor Sargent's opinion regarding them. I am making arrangements with Dr. Duncan Main here, to send you some fresh nuts this coming autumn.

Another thing I found on a spur of the Pan shan at an elevation of c. a. 1500 ft. a. s. were wild tea-bushes in a dense thicket of *Ilex cornuta*, *Castanea pumila*, dwarf bamboo, *Juniperus sp.*, etc. On this same spur I found wild camphor-trees, wild tallow trees, (*Sapium sebiferum*) lots of wild *Diospyros kaki*; wild *Yang mae* trees (*Myrica rubra*), *Exochorda grandiflora*, *Chionanthus retusa*, *Symplocos sp.*,

Lindera sp., *Pistacia chinensis*, several species of oaks and minor scrub. Quite a rich and interesting flora.

"On the low lands, in dense copses of *Quercus variabilis*, *Liquidambar formosana*, mulberries, plums and loquats, I found the white barked persimmon. A few trees that had not been grafted to *D. kaki* had fruits on them, which are quite hairy, as are the calyx, the leaves, young shoots and petioles. A few local people whom we asked the name, called it the *Yu shi tze* or 'oil persimmon', apparently.

"With Dr. Main and Mr. Kennedy I'll make some arrangements to send us seeds and scions this fall. The marvel of this white barked fellow is that it delights on places where it is only a few feet above the water's edge and where dampness and shade reign for the greater part of the year, while *D. lotus* and *D. kaki* are just the opposite, although the last one also stands considerable shade, when seen wild on stony mountain slopes near Nanking and around here.

"Yesterday I took some natural size photos of the large Yangmae-fruits (Nagi's) we have here and also of the wild ones which I collected on the Pan Shan. My! the last ones are only one-fourth the size of the big ones. This fruit I consider promising for certain sections of Florida and for California; it may possibly be grafted on local stock-plants."

Japan. Tokyo. Mr. Y. Takahashi, Acting Mayor, writes June 8: "I am very glad to inform you that the dogwood trees, the gift of the Washington government to the city of Tokyo through Mr. W. T. Swingle, arrived in splendid condition. The trees were immediately planted in the Hibiya Park, near the Imperial Palace. I am sure, in a few years when the trees are in blossom, they will be one of the most flowery sights of the park and a constant reminder to our citizens of the kindly feeling of your government and country. Will you express to the Washington government and your country the hearty thanks of this city for its beautiful and generous gift?"

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